

**PROPOSAL TO IMPROVE AND OPERATE
EXISTING TUOLUMNE RIVER FISH FACILITY (TRFF)**

97 JUL 28 PM 2:00

Project Manager
San Joaquin River Group Authority
P.O. Box 949
Turlock, CA 95381

FI-135

APPLICANT:

The San Joaquin River Group Authority (SJRG) is organized by a Joint Exercise Powers Agreement. SJRG is a tax-exempt public entity.

CONTACTS:

For project administration:

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PARTICIPANTS:

The San Joaquin River Group Authority (SJRG) includes Merced Irrigation District, Modesto Irrigation District (ModID), Oakdale Irrigation District, South San Joaquin Irrigation District, Turlock Irrigation District (TID), Friant Water Users Authority, and the San Joaquin River Exchange Contractors Water Authority.

COST SHARE PARTICIPANTS:

The existing Tuolumne River Fish Facility (TRFF) was jointly developed in 1981 by Modesto Irrigation District, Turlock Irrigation District, and the California Department of Fish and Game (CDFG). CDFG used funding from the Salmon Stamp Program which is paid by commercial fishermen. ModID and TID will provide the water supply, storm runoff drainage, and use of District facilities for this proposal. The marked salmon would be used in a cooperatively conducted by CALFED agencies and others.

PROJECT GROUP:

Group 1 (Public Works) - CALFED is being asked to fund the design and construction improvements to the existing TRFF near La Grange, Stanislaus County, California.

Group 3 (Services) - CALFED is being asked to fund three years of Tuolumne River salmon egg-taking operation, incubation at Merced River Fish Facility (or potentially at TRFF), rearing and marking at the TRFF, and transport to release sites.

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II. EXECUTIVE SUMMARY

SUBMITTED BY: SAN JOAQUIN RIVER GROUP AUTHORITY (SJRG)

DESCRIPTION:

This proposal addresses San Joaquin fall-run chinook salmon, a priority population, and is designed to facilitate evaluations on effects of identified stressors such as "Alteration of Flows and Other Effects of Water Management", "Water Quality", "Water Temperature", "Undesirable Species Interactions", and "Population Management." This proposal is identified by CALFED's list of example restoration actions under Item 10: "Artificial Propagation of Fish".

This is a three-year funding request. It is anticipated that operation of the TRFF may continue beyond year 2000 depending on completion of priority South Delta evaluations and artificial salmon production genetic criteria yet to be established for the San Joaquin system.

Phase I: (1) to provide operational and safety improvements to the existing Tuolumne River Fish Facility, (2) to provide for a salmon egg-taking operation in the Tuolumne River, (3) to provide for three years of operations for: egg-taking, transportation of eggs, incubation, and initial rearing at the Merced River Fish Facility (MRFF), transportation of fry, rearing and marking at the TRFF of up to 400,000 salmon per year, and transport of salmon smolts to release sites.

Phase II (optional funding request): (1) install a dual water supply within the rearing area, (2) install water treatment equipment for disease control, and (3) add egg incubation and initial rearing facilities at TRFF.

BIOLOGICAL OBJECTIVES:

1. Provide up to 400,000 marked salmon per year for studies to evaluate survival of natural salmon in the South Delta in a program to be determined by consensus among South Delta, San Joaquin interests, and federal and state agencies. Salmon reared and marked at the TRFF could also be used if any salmon are needed for Tuolumne River evaluations or for gear efficiency assessments.
2. Eliminate the need to use salmon from the Feather River Hatchery in South Delta evaluations thereby reducing the number of out-of-basin fish returning as adults to the San Joaquin system.
3. Improve maintenance of any existing genetic integrity of Tuolumne River salmon by eliminating the existing practice of using salmon of Merced River origin in Tuolumne River evaluations.
4. Providing an alternate source of salmon eggs and smolts for evaluations in the South Delta will allow for more adaptive management by reducing reliance on MRFF and providing an opportunity to modify MRFF operations to better utilize sound biological and genetic management protocols.

TASKS & SCHEDULES:

- | | | |
|----------|--|-----------------------------------|
| Phase I: | 1. Preliminary project scoping and design: | Completed |
| | 2. Civil design for construction elements: | Oct-Dec 1997 |
| | 3. Construction and installation at TRFF: | Dec 1997-Feb 1998 |
| | 4. Egg-taking installation and operation: | Oct through Dec 1997-1999 |
| | 5. MRFF incubation and initial rearing: | Oct through Feb 1997/98-1999/2000 |
| | 6. TRFF rearing, marking, and transport: | Feb through May 1998-2000 |

JUSTIFICATION:

There is a recognized need to better understand the factors influencing the survival of naturally produced salmon from the San Joaquin River system through the Delta. The SJRGA and others have proposed augmenting existing IEP South Delta salmon studies to specifically address the effects on salmon survival under various conditions of springtime San Joaquin River flow at Vernalis, State and Federal Delta export rates, and with a fishery protection barrier at the head of Old River. DFG has expressed concerns about (1) their ability to provide study salmon from the MRFF for studies in the South Delta and (2) about some operational aspects of the existing TRFF. This project would help ensure that marked Tuolumne River salmon are available for South Delta studies. Alternatively, if any salmon are used in Tuolumne River studies, those from the TRFF would allow MRFF salmon to be available for any Merced River and South Delta studies.

BUDGET:

The CALFED is being asked to fund the costs of upgrading the existing TRFF (\$237,000), adult trapping and egg-taking equipment (\$75,000), marking equipment (\$150,000), three years operations for egg-taking, incubation, rearing, marking, and release of salmon (\$691,000), and construction/project management (\$115,000) for a total Phase I cost of \$ 1,268,000. Phase II is an optional funding request of \$806,000.

APPLICANT QUALIFICATIONS:

The SJRGA includes member organizations which have been involved with cooperative studies of San Joaquin River fall-run chinook salmon since 1971. These studies include funding numerous salmon rearing and marking evaluations conducted in cooperation with DFG and U.S. Fish and Wildlife Service. The SJRGA has retained Joseph McMichael who has over 30 years of experience with the U. S. Army Corps of Engineers on a wide range of fish facilities, including design and project management of salmon trapping, rearing, acclimation, and hatchery facilities. Tim Ford has been the staff biologist for the Turlock and Modesto Irrigation Districts since 1981 and has focused on the biology and habitat of salmon in the San Joaquin River system, especially in the Tuolumne River. DFG has operated the existing TRFF since 1989 with the MRFF.

MONITORING PLAN:

The monitoring plan would primarily consist of the inland and ocean recoveries of marked salmon.

LOCAL SUPPORT; COORDINATION WITH OTHER PROGRAMS

Use of the TRFF as an interim measure to provide study fish for important South Delta studies is supported by TID, ModID, and other San Joaquin River Group Authority members as well as CCSF. The Pacific Coast Federation of Fishermen's Association has long supported use of the TRFF for salmon. PCFFA support was instrumental in obtaining the initial Salmon Stamp funding for the facility. In a March 3, 1997 letter opposing DFG's proposed new Tuolumne River hatchery and written to the DFG Region 4 manager, Wayne White, USFWS Field Supervisor, stated: "Tuolumne River Fish Facility--Continued use of the Modesto Irrigation District's (MID) canal to rear salmon. Although this is incompatible with natural rearing concepts, using the MID canal is an alternative if additional salmon for studies or other purposes is deemed absolutely necessary."

The use of TRFF study fish will be coordinated with required Tuolumne River FERC smolt survival studies and with the appropriate IEP agencies on South Delta studies.

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III. PROJECT DESCRIPTION

PROJECT DESCRIPTION AND APPROACH

This proposal is divided into two phases. The first phase consists of the high priority elements to improve safety and operational flexibility of the existing TRFF. The Phase 1 proposal is essentially the same proposal as the Interim Artificial Propagation Program (#15) submitted by DFG, including the Hatchery Fish Marking Program (#32), contained in the Joint CALFED & SJRMP San Joaquin River Fishery Technical Team Workshop Report dated 2 April 1997. The Phase 1 proposal is for three years, but it is anticipated that operation of the TRFF may continue beyond year 2000. Future use of the TRFF, after the completion of priority South Delta studies, is anticipated to be adjusted to reflect those study needs or as salmon genetic criteria yet to be established for the San Joaquin system may require.

Phase I of this proposal has the following elements:

- (1) provide operational and safety improvements to the existing TRFF,
- (2) provide for a salmon egg-taking operation in the Tuolumne River,
- (3) provide for three years (1997-1999) of operations for egg-taking and transportation to the Merced River Fish Facility (MRFF), incubation and initial rearing at the MRFF, transportation to, rearing, and marking at the TRFF (1998-2000), and transportation to release sites of up to 400,000 salmon per year.

Phase II is being presented as an optional funding request. Phase II element are:

- (1) install a dual water supply within the rearing area,
- (2) install water treatment equipment, and
- (3) add egg incubation and initial rearing facilities at TRFF.

The TRFF has successfully reared over 800,000 smolts without the proposed Phase II dual water supply and water treatment equipment; however, these are prudent improvements which would better insure successful annual operations at the TRFF. The egg incubation and initial rearing facility would allow Tuolumne River study salmon to be reared from egg to smolt entirely in Tuolumne River water and allow TRFF to operate independently from the MRFF thereby providing insurance against any major failure of MRFF's egg incubation or initial rearing operations. We request that CALFED consider the advisability of funding the Phase II improvements in 1997, especially if CALFED concurs with our belief that requirements for study salmon from TRFF will extend beyond the year 2000.

All salmon would be marked and released according to consensus-based protocols among South Delta and San Joaquin interests and applicable federal and state agencies for specific studies to be determined annually. All data related to the egg-taking and TRFF operation will be made readily available to all interested parties.

LOCATION

The TRFF is located at the head of an unused portion of the Modesto Irrigation District main canal near La Grange Dam at River Mile 52 on the Tuolumne River about 32 miles east of Modesto in Stanislaus County. See Figure 1. The adult trapping operation would take place on the Tuolumne River at a suitable location or locations, e.g. at the Turlock Lake State Recreation Area about 10 miles downstream of La Grange Dam where power is available and a small trailer can be located for a 24-hour staff presence. A high percentage of the migrating salmon pass through this point of the river.

EXPECTED BENEFITS

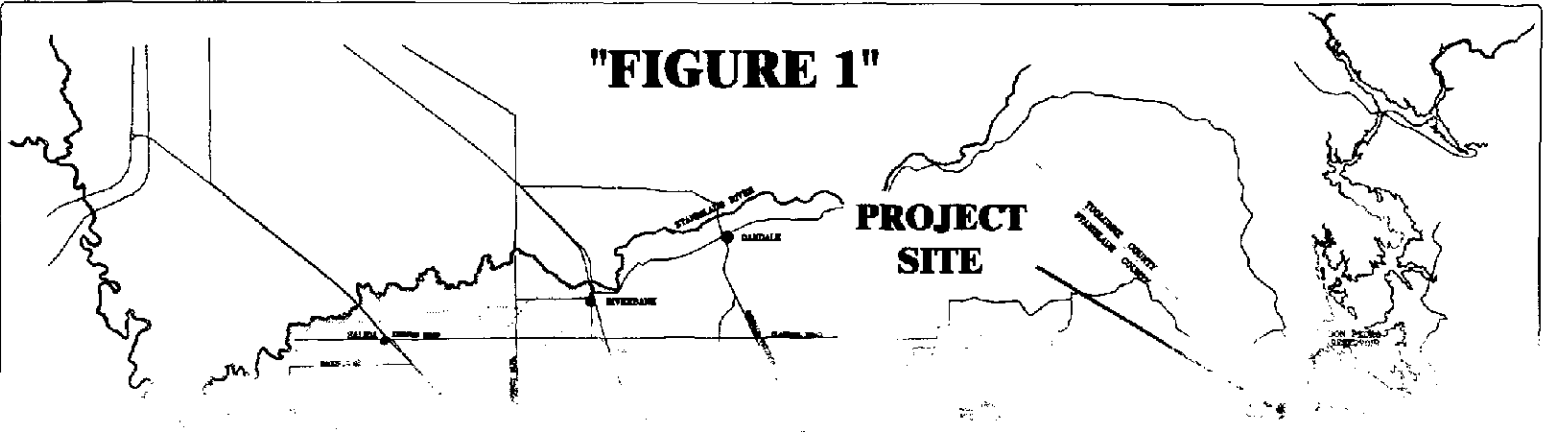
1. Provide up to 400,000 marked salmon per year for priority survival evaluations in the South Delta.
2. Reduce or eliminate the use of Feather River salmon in South Delta studies.
3. Provide an alternative to Merced River salmon for use in any Tuolumne River studies.
4. Reduce reliance on Merced River Fish Facility for providing salmon for all San Joaquin system studies.

BACKGROUND & TECHNICAL JUSTIFICATION

There is a recognized need to better understand the factors influencing the survival of naturally produced salmon from the San Joaquin River system through the Delta. The SJRGA and others have proposed augmenting existing IEP South Delta salmon studies to specifically address effects on salmon survival from various conditions of springtime San Joaquin River flow at Vernalis, State and Federal Delta export rates, along with a fishery protection barrier at the head of Old River. DFG has expressed concerns about (1) its ability to provide study salmon from the MRFF for South Delta studies because of its MRFF yearling program and other San Joaquin Basin studies which DFG states have priority and (2) some operational aspects of the existing TRFF. This project would help insure that study salmon, primarily marked with coded-wire tags (CWT), are available for South Delta studies by providing Tuolumne River salmon reared at an improved TRFF. Alternatively, if any salmon are used in Tuolumne River studies, those from the TRFF would allow MRFF salmon to be available for the South Delta studies.

The existing Tuolumne River Fish Facility was jointly developed in 1988-89 by Modesto Irrigation District, Turlock Irrigation District, and the California Department of Fish and Game (DFG). In the first year, 1989, DFG transferred 925,000 fry from MRFF and reared them at TRFF until June when DFG released 867,700 unmarked smolts into San Francisco Bay. DFG estimated the rearing capacity of TRFF to be about 1.5 million smolts because the entire rearing facility was not utilized. The facility was used to rear smaller numbers of salmon in 1990, 1991, 1993, 1994, and 1995. From time to time, DFG has used the TRFF to rear MRFF salmon when there were water quality concerns at the MRFF and on one occasion to rear trout from the

"FIGURE 1"



I-002917

Moccasin hatchery.

The facility normally uses about 5 cfs, but has a flow capacity of up to 20 cfs, has suitable water temperatures, few disease problems, and very little mortality or bird predation. TID and ModID constructed the inlet and outlet structures and a bypass for local storm runoff. DFG installed weirs to create several segregated rearing sections and a loading platform on the access ramp. There is a power supply on site, security is good because of restricted access and regular patrol by ModID staff, and DFG has housing and an office within 2 miles of the site.

The MRFF has an existing egg incubation capability of more than four million eggs which is not used to capacity. DFG has previously operated egg-taking operations on the Stanislaus River and on stream channels near Los Banos. Recently DFG has suggested an egg-taking operation on the Tuolumne River.

PROPOSED SCOPE OF WORK

PHASE I

- A. Provide the following items at the present rearing site:
 - 1. The necessary safety devices to meet State of California and OSHA requirements. This would include safety fencing, locking access gates, access ladders, and passageways.
 - 2. Truck ramp improvements for access and work areas.
 - 3. New bulkheads, fish screens, and walkway & work area gratings for the existing fish rearing inlet and outlet structures.
 - 4. Fingerling transfer pipes from each rearing pond.
 - 5. Auxiliary 4-inch water supply line from head water with multiple outlets for miscellaneous uses.
 - 6. Feeders at each rearing pond.
 - 7. Emergency low level alarms.
 - 8. Electrical service throughout the length of the rearing ponds.
 - 9. Metal building for food storage, office, toilet facilities, etc.
 - 10. Purchase five new Mark IV CWT machines and associated equipment and supplies.
 - 11. Miscellaneous equipment for operation and maintenance of the rearing facility.
- B. Provide the following items at the proposed adult trap and egg-taking facility:
 - 1. River barrier to guide fish.
 - 2. Trap structure.
 - 3. Personnel trailer on site.
 - 4. Miscellaneous equipment for operation, egg taking, and transportation of the eggs.

- C. Provide operational monies necessary for three years operation of egg-taking, incubation, rearing, marking, and transportation to release sites of up to 400,000 salmon per year.

PHASE 2

- A. Provide additional rearing capacity within the facility if required.
- B. Provide incubation and early rearing facilities on site for disease control and maintaining Tuolumne River stock.
- C. Provide water treatment facilities to assure water quality for incubation and early rearing. This treatment will make use of either ultraviolet or ozone for water born diseases and aeration for oxygen requirements.
- D. Provide a dual water supply system in the rearing ponds to completely separate one-half the fish from the other for disease control.

MONITORING PLAN

The monitoring would primarily be associated with the existing inland and ocean recoveries of marked salmon. Juvenile salmon are recovered at several sampling locations in the San Joaquin River Delta, including the State and Federal water export facilities. Adult salmon are recovered in the ocean commercial and sport fisheries, in spawning stream carcass surveys, and in hatchery and trapping facilities. Onsite monitoring would be typical for a salmon rearing facility, including water temperature, salmon growth rate, and salmon survival. Genetic monitoring would be performed as part of a basin-wide program proposed by DFG.

IMPLEMENTABILITY

DFG has stated it intentions to submit a proposal to CALFED for construction of an entirely new "interim" rearing facility downstream of the TRFF at DFG's proposed new hatchery site near the town of La Grange. Environmental groups have already indicated their opposition to DFG's proposal.

By an agreement between ModID, TID and DFG dated 1 June 1993, DFG has already agreed to continue to utilize the TRFF to rear salmon as needed through November 30, 2001, so long as funds are available to DFG for such purpose. This proposal would provide the necessary funds to DFG. As indicated above, this proposal is essentially the same as the Interim Artificial Propagation Program (#15) DFG itself submitted to the Joint CALFED/SJRMPS San Joaquin River Technical Team Workshop at Bass Lake. It is hoped that DFG will recognize the practicality and cost effectiveness of this proposal and that DFG will agree to perform the following tasks which would be funded under the proposal: Tuolumne River egg-taking operations and transport of eggs to MRFF, incubation and initial rearing at MRFF, transport of

fry to TRFF, rearing salmon at TRFF, and transport of salmon smolts to release sites. CWT or other marking would be done by a contractor under DFG supervision.

If DFG declines to perform those tasks, then DFG will be requested to issue a permit to SJRGA to perform those tasks. Construction of improvements to the TRFF will be contracted out by SJRGA.

IV. COSTS AND SCHEDULES

BUDGET COSTS

The following budget costs are included for both Phase 1 and Phase 2 of the proposed project costs. Funding is only requested for Phase 1 work.

PHASE I (Funding Requested)

1.	Operational and safety improvements of existing facility	\$237,000
2.	River barrier and adult trap	\$ 75,000
3.	Four Mark IV CWT machines & support equipment	\$150,000
4.	Three year operation of rearing facility	\$292,000
5.	Three year operation of adult trap and egg-taking facility	\$105,000
6.	Three years incubation and early rearing	\$112,000
7.	Three years fish marking	\$132,000
8.	Three years smolt transportation and release	\$ 50,000
9.	Construction/Project Management	<u>\$115,000</u>
	Total	\$1,268,000

PHASE II (Optional Funding Request)

1.	Incubation facilities	\$218,000
2.	Dual water supply system	\$140,000
3.	Additional rearing ponds	\$245,000
4.	Water treatment equipment	\$130,000
5.	Construction/Project Management	<u>\$ 73,000</u>
	Total	\$806,000

SCHEDULE

The schedule below shows the various components of this proposal. Early assurance of funding will facilitate adult trapping and egg-taking starting in the fall of 1997.

Phase I:

1.	Preliminary project scoping and design	Completed
2.	Civil design for construction elements	Oct-Dec 1997
3.	Construction and installation at TRFF	Dec 1997-Feb 1998
4.	Egg-taking installation and operation	Oct through Dec 1997-1999
5.	MRFF incubation and initial rearing	Oct through Feb 1997/98-1999/2000
6.	TRFF rearing, marking, and transport	Feb through May 1998-2000

Phase II (assumes CALFED approval of optional funding request in 1997):

1.	Preliminary project scoping	Completed
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- | | | |
|----|--|-----------------------------------|
| 2. | Civil design for construction elements | Oct 1997-Mar 1998 |
| 3. | Construction and installation at TRFF | Dec 1997-Oct 1998 |
| 4. | Incubation and initial rearing at TRFF | Oct through Feb 1998/99-1999/2000 |

THIRD PARTY IMPACTS

A potential minor impact to boating (e.g. canoes and kayaks) traffic during the egg-taking operations. This may necessitate a short portage.

V. APPLICANT QUALIFICATIONS

The SJRGA includes member organizations which have been involved with both cooperative and independent studies of San Joaquin River fall-run chinook salmon since 1971. These include funding numerous salmon rearing and marking studies conducted in cooperation with DFG and U.S. Fish and Wildlife Service. The SJRGA has retained the consulting firm of S. P. Cramer & Associates, specifically engineer Joseph McMichael, to assist in developing this proposal. Mr. McMichael has over 30 years of experience with the U. S. Army Corps of Engineers on a wide range of fish facilities, including design and project management of salmon trapping, rearing, acclimation, and hatchery facilities. DFG has utilized the existing TRFF since 1989 as a satellite facility of the MRFF.

Tim Ford has been the staff aquatic biologist for TID and ModID since 1981 and has focused on the biology and habitat of salmon in the San Joaquin River system, especially in the Tuolumne River. Mr. Ford graduated from the University of California at Davis with a B.S. in Wildlife & Fisheries Biology in 1977. He worked as a Biological Technician for the Modoc, Tahoe, and Stanislaus National Forests prior to working for the districts. Mr Ford is tasked with planning, coordinating and conducting the aquatic resources program for the districts, and his responsibilities at TID include field studies, program development, consultant supervision, and coordination with Don Pedro project operations.

Contracting support and financial service support as needed will be provided by ModID staff. ModID Engineering will provide construction management and inspection services to the project. It is anticipated that a licensed professional civil engineer will be assigned to perform these duties.

VI. COMPLIANCE WITH STANDARD TERMS & CONDITIONS

Applicant is a public entity. The applicable RFP project group types are Group 1, Public Works Construction for facilities construction and Group 3, Public Services for funding of operations of the facilities.

The applicant agrees to the terms and conditions of the Request for Proposals as amended by CALFED's Responses to RFP Questions dated 14 July 1997, and applicant intends to comply with those terms and conditions.


It is anticipated that some of the public works construction effort will be performed by private contractors. Pursuant to Question and Response 25 of the above CALFED Responses, the applicant will be deferring the requirement for submission of bid & payment bonds until such time as each subcontract is sought and awarded and before any work under the subcontract is performed.

Enclosed are the following completed forms:

Nondiscrimination Compliance Statement, RFP Item No. 8
Noncollusion Affidavit - Public Works, RFP Item No. 11

Submitted by

SAN JOAQUIN RIVER GROUP AUTHORITY

By 
Barbara A. Hetrick, Secretary

Dated: July 25, 1997.

NONDISCRIMINATION COMPLIANCE STATEMENT

COMPANY NAME

San Joaquin River Group Authority (SJRGa)

The company named above (hereinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, disability (including HIV and AIDS), medical condition (cancer), age, marital status, denial of family and medical care leave and denial of pregnancy disability leave.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.

OFFICIAL'S NAME

Barbara A. Hetrick, Secretary SJRGa

DATE EXECUTED

July 25, 1997

EXECUTED IN THE COUNTY OF

Stanislaus

PROSPECTIVE CONTRACTOR'S SIGNATURE

Barbara A. Hetrick

PROSPECTIVE CONTRACTOR'S TITLE

San Joaquin River Group Authority

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

San Joaquin River Group Authority

NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY
 BIDDER AND SUBMITTED WITH BID FOR PUBLIC WORKS

STATE OF CALIFORNIA)
)ss
 COUNTY OF STANISLAUS)

Barbara A. Hetrick, being first duly sworn, deposes and
 (name)

says that he or she is Secretary of
 (position title)

the San Joaquin River Group Authority
 (the bidder)

the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

DATED: July 25, 1997 By Barbara A. Hetrick
 Barbara A. Hetrick (person signing for bidder)



(Notarial Seal)

Subscribed and sworn to before me on

July 25, 1997
Gail Humphrey
 (Notary Public)